

## **Executive Summary**

### ***Introduction***

*Adolescent Births: A Statistical Profile, Massachusetts, 1999* is a supplement to the publication *Massachusetts Births 1999*, and presents selected annual statistics and trend data on births among adolescent women in Massachusetts, as well as comparisons with national data. The four sections cover: 1) demographic and birth characteristics and teen birth trends for the state as a whole; 2) birth outcomes and prenatal care including birthweight, gestational age, adequacy of prenatal care, infant mortality, smoking during pregnancy, and mother's educational attainment; 3) teen birth rates and birth characteristics for each of the 25 communities with the highest number of teen births in 1999; and 4) teen birth characteristics for each of the 351 Massachusetts communities and for each of the 27 Community Health Network Areas (CHNAs). Teen births refer to births to resident Massachusetts women under 20 years old, unless specified otherwise. Massachusetts data are from the Registry of Vital Records and Statistics, Bureau of Health Statistics, Research and Evaluation, Massachusetts Department of Public Health (MDPH). United States data are from the Centers for Disease Control and Prevention, National Center for Health Statistics (NCHS).

Overall, Massachusetts continues to have a low birth rate among women ages 15-19 years relative to most other states and the nation as a whole.<sup>1</sup> However, some Massachusetts communities have teen birth rates that are higher than the national rate. Moreover, there are still disparities across race/Hispanic ethnicity subgroups in relation to low birthweight prevalence, adequacy of prenatal care and infant mortality. The data presented in this profile are intended to present information that will assist those planning programs, provide evaluators and researchers with reference measures, and assist policy makers in their efforts to address adolescent health issues.

### ***Summary***

#### ***I. Statewide Demographic and Birth Characteristics***

##### **Number and Percentage of Births to Women under Age 20**

- ✓ In 1999, 5,588 infants were born to women under age 20, a decrease of 314 births from the previous year. 1999 had the lowest number of teen births since 1983.
- ✓ In 1999, only 6.9% of all births in Massachusetts were to women under age 20, compared to 7.3% in 1998. Since 1983, the percentage of births that were to women under 20 has decreased 24.2% (from 9.1% to 6.9%), with 1999 representing the lowest percentage in that time period.

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<sup>1</sup> National Center for Health Statistics, U.S. Department of Health and Human Services, 1999.

## **Birth Rates among Women Ages 15-19<sup>2</sup>**

- ✓ The 1999 Massachusetts teen birth rate was 26.6 births per 1,000 women ages 15-19. This represents a decrease from 28.1 births per 1,000 women ages 15-19 in 1998. Following its high in 1989, the teen birth rate for Massachusetts has declined 25.9%.

## **Age Distribution of Teen Mothers**

- ✓ In 1999, 65.5% of all teen births occurred among women ages 18-19 years, 33.2% among women ages 15-17 years, and 1.3% among women under age 15. Over the last six years, the age distribution of teen women giving birth has remained relatively unchanged, with age and number of births being directly related.

## **Race/Hispanic Ethnicity Distribution of Teen Births**

- ✓ In 1999, 48.1% of all teen births (<20 years of age) were to teen women whose race/Hispanic ethnicity was white non-Hispanic. Teen births to white non-Hispanic women continue to account for the largest proportion of all teen births.
- ✓ Over the six-year period from 1994 to 1999, among all teen mothers, the percentage of infants born to black non-Hispanic women has decreased from 15.2% to 12.9%, while the percentage of infants born to Hispanic teen women has increased from 29.7% to 31.2%.
- ✓ Overall, the percentage of teen births to women in the 12-15 year age range decreased by 3.4% between 1998 and 1999 (from 5.9% to 5.7%), with the highest decline among Asian teens at 31.5% (from 10.8% to 7.4%), followed by Hispanic teens at 11.8% (from 9.3% to 8.2%).

## **Mother's Place of Birth**

- ✓ In 1999, 76.0% of all teen mothers were born within the United States or the District of Columbia; among older mothers (20 years and older), there was a slightly higher percentage (77.9%).
- ✓ The percentage of mothers born outside the U.S. varied by race/Hispanic ethnicity within each maternal age group. Among teen births, the majority of black non-Hispanic mothers (84.4%) were born in the U.S., in contrast to Asian teen mothers, where a much smaller percentage (25.1%) were born in the U.S. Among older mothers, 54.3% of black non-Hispanic mothers and 7.1% of Asian mothers were born in the U.S.

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<sup>2</sup> Due to a revised estimation of the population count for 1991-1997, the teen birth rates for these years have been re-calculated. Therefore, the 1991-1997 teen birth rates published in prior reports cannot be compared to those in this report.

- ✓ Approximately one in three (31.3%) Hispanic teen mothers were born within US territories, compared to 23.2% of older Hispanic mothers. Regardless of age, there was considerable variation in the proportion of mothers born outside the U.S. across ethnic subgroups.

### **Previous Live Births**

- ✓ In 1999, 16.3% of teen births were to mothers with at least one prior live birth and 2.1% of teen births were to mothers with two or more prior live births. These figures showed little change from 1998 (16.5% and 2.6% respectively).
- ✓ Among the younger teen mother category (ages 12-17), the percentage of multiparous mothers dropped from 8.6% in 1998 to 7.7% in 1999.
- ✓ In 1999, among women ages 18-19, 28.8% of births to Hispanic women, 25.7% of births to black non-Hispanic women, 16.8% of births to Asian women, and 15.5% of births to white non-Hispanic women were to mothers who already had at least one live birth.

### **Prenatal Care Payment Source**

- ✓ The percentage of teen mothers whose prenatal care was supported through public funds was 71.6% in 1999. In contrast, only 22.8% of women 20 and older had their prenatal care supported through public funds in 1999. The opposite trend was present in the use of HMOs as a source of prenatal care. Only 21.4% of teen mothers in 1999 relied on HMOs as a source of prenatal care compared to 62.7% of adult mothers.
- ✓ Among teen mothers, the percentage receiving publicly funded prenatal care varied by race/Hispanic ethnicity: 59.8% of white non-Hispanic teen mothers, 76.2% of black non-Hispanic teen mothers, 86.9% of Hispanic teen mothers, and 75.3% of Asian teen mothers received publicly funded prenatal care.
- ✓ In 1999, 72.3% of unmarried teen mothers and 63.9% of married teen mothers received publicly-funded prenatal care. The figure for unmarried teens increased from 69.3% in 1998.

### **Marital Status**

- ✓ In 1999, 21.7% of births to adult mothers and 91.1% of births to teen mothers were to unmarried women. Among teen mothers, marital status was largely consistent across race/Hispanic ethnicity categories.

### **In-Hospital Paternity Acknowledgment**

- ✓ The overall percentage of births to unmarried women with paternity acknowledgment in the birth hospital has increased from 53.4% in 1994 to 70.4% in 1999.

- ✓ Paternity acknowledgment occurred at a lower rate among unmarried teens than among unmarried adults. In 1999, 65.8% of births to unmarried teen mothers (ages <20) and 71.8% of births to unmarried adult mothers (ages 20+) included in-hospital paternity acknowledgement.
- ✓ An increase in paternity acknowledgment for infants born to unmarried teens occurred among young teen mothers (12-17 years old) between 1998 (61.5%) and 1999 (62.9%). The percentage of paternity acknowledgment for births to older unmarried teens (18-19 year old), however, remained stable from 1998 (67.0%) to 1999 (67.5%).

## **II. Birth Outcomes and Prenatal Care**

### **Low Birthweight and Gestational Age**

- ✓ In 1999, the total proportion of low birthweight births (less than 2,500 grams) among births to women under 20 was 9.0%, stable from 8.9% in 1998.
- ✓ The occurrence of low birthweight (LBW) among teens continued to differ across race/Hispanic ethnicity groups. In 1999, the percentage of LBW infants among births to teens was 8.0% for white non-Hispanic teen mothers, 11.3% for black non-Hispanics, 9.3% for Hispanics, and 11.6% for Asians.
- ✓ The percentage of low birthweight births among births to teens was 30.4% higher than it was for births to adult women (9.0% vs. 6.9%). This ratio varied by race/Hispanic ethnicity. Low birthweight among births to black non-Hispanic teens in 1999 was 8.1% lower than among births to black non-Hispanic adults (11.3% vs. 12.3%). Low birthweight among white non-Hispanic teens was 25.0% higher than among white non-Hispanic adult women (8.0% vs. 6.4%), while Asian teens had a 63.4% higher percentage of low birthweight births compared with their adult counterparts (11.6% vs. 7.1%).
- ✓ In 1999, very low birthweight was still marginally more common among births to teens (<20 years) than among births to older women (1.8% vs. 1.4%). Among teen births, very low birthweight was highest among births to black non-Hispanic mothers (2.5%).
- ✓ The incidence of preterm birth (< 37 weeks gestation) continued to be higher among teen births than among births to older women (8.8% vs. 7.5%). The gap between the two groups remained essentially unchanged during the past year (1.0% in 1998 compared to 1.3% in 1999).

### **Prenatal Care**

- ✓ As in previous years, women under 20 were less likely than women over 20 to receive adequate prenatal care (59.2% vs. 80.9%), as well as prenatal care during the first trimester (64.7% vs. 85.7%).

- ✓ A higher percentage of white non-Hispanic and Hispanic teens received adequate prenatal care (60.4% and 60.1% respectively) compared with other race/Hispanic ethnicity groups. Asian teen mothers had the lowest percentage (47.2%), although the percentage has increased 30.4% since 1998 (36.2%).

### **Cesarean Sections**

- ✓ C-Sections were less common among teen mothers than adult mothers (12.8% vs. 23.1%). The percentage for teen mothers remained stable from 1998 to 1999 (12.4% vs. 12.8%), while the percentage for adult mothers rose from 21.5% to 23.1%.

### **Breastfeeding**

- ✓ Breastfeeding or an intention to breastfeed was reported by over half of the teen mothers (57.9%) compared with nearly three-quarters (73.0%) of older mothers. The intention to breastfeed varied widely among race/Hispanic ethnicity groups.
- ✓ The percentage of teen mothers who reported breastfeeding or an intention to breastfeed increased between 1998 and 1999 for all race/Hispanic ethnic groups except black non-Hispanic teen mothers. The overall rate increased from 55.6% to 57.9%. The most dramatic change occurred among Asian teen mothers, increasing from 47.8% in 1998 to 56.7% in 1999.
- ✓ Hispanic teen mothers continued to have the highest percentage of breastfeeding or intention to breastfeed in 1999. This percentage has consistently remained higher than 50% over the last six years. While all groups have shown an increase in the percentage of mothers breastfeeding, Asian teen mothers have shown the largest increase over the last six years (26.1% to 56.7%).

### **Infant Mortality<sup>3</sup>**

- ✓ As in previous years, the 1998 infant mortality rate (IMR) was higher among births to teen mothers compared to births to adult mothers. This difference, however, increased slightly between 1997 and 1998, as the IMR among births to adults dropped from 4.9 to 4.7 deaths per 1,000 live births, while the IMR for births to teens increased from 6.9 to 7.3.
- ✓ In 1998, the IMR was higher among births to teen mothers compared to births to adult mothers among all race/Hispanic ethnicity categories except black non-Hispanics.

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<sup>3</sup> 1998 is the latest year that infant mortality data by mother's age are available. Infant mortality data that is not age-specific (i.e. infant mortality among births to mothers of *all* ages) are available for 1999. (See Technical Notes for further explanation).

- ✓ The IMR among births to teen mothers dropped considerably among black non-Hispanic teens in 1998 following two years of increased rates. Between 1997 and 1998, the IMR among births to black non-Hispanic teen mothers dropped 36.5% from 14.8 to 9.4 deaths per 1,000 live births.
- ✓ The infant mortality rate (IMR) in Massachusetts remained much lower than the national average among both teen and adult mothers. The IMR among Massachusetts teen births in 1998 was 28.4% lower than the IMR among U.S. teen births (7.3 vs. 10.2 deaths per 1,000 live births). Similarly, the IMR among Massachusetts adult births was 29.9% lower than the national IMR among older mothers (4.7 vs. 6.7 deaths per 1,000 live births).
- ✓ The IMR increased dramatically as birthweight declined among both teen and adult mothers in 1998. The IMR among very low birthweight births (<1,500 grams) for adult mothers was 223.6 per 1,000 live births compared to 9.6 per 1,000 live births among moderately low birthweight births (1,500 to 2,499 grams). Similarly, among teen mothers, the IMR for very low birthweight births was 203.5 compared to 24.4 for moderately low birthweight births.

### **Smoking during Pregnancy**

- ✓ As in 1998, teen mothers reported much higher rates of smoking during pregnancy in 1999 than adult mothers (20.3% vs. 9.9%).
- ✓ Among teen mothers, white non-Hispanic women had the highest prevalence of smoking (30.6%), dramatically higher than their adult counterparts (10.8%). Asian teen mothers had the lowest prevalence of smoking (8.4%).
- ✓ In 1999, teen mothers reported a five year low in the percentage of mother's who smoked during pregnancy. From 1995 to 1999, the percent of women under 20 who smoked during pregnancy decreased 5.6% (from 21.5% to 20.3%).
- ✓ Overall, the fewer cigarettes mothers smoked *prior* to pregnancy, the more likely they were to quit or reduce their level of smoking *during* pregnancy. This pattern was found across all groups. Both teen and adult women had similar rates of quitting during pregnancy.

### **Expected Educational Attainment**

- ✓ In 1999, 31.7% of births to teens (< 20 years of age) were to women who were behind their expected grade level at school.
- ✓ Among race/Hispanic ethnic groups, Hispanic teen mothers were most likely to be behind their expected grade level (40.1%), followed by Asian teen mothers (30.7%) and white non-Hispanic teen mothers (29.5%).
- ✓ From 1997 to 1999, among all race/Hispanic ethnicity groups, the percentage of teen mothers who were behind their expected grade level increased 6.7% (29.7% to 31.7%). Black non-Hispanics had the greatest increase, 18.0% (from 17.8% to 21.0%) followed by white non-Hispanics, 10.9% (from 26.6% to 29.5%).

### **III. Birth Characteristics for Selected Massachusetts Communities**

- ✓ Statewide data can mask variation among individual communities. Each year the 25 cities and towns with the greatest number of births to teen mothers ages 15-19 are ranked by birth rate.

#### **Community Birth Rates<sup>4</sup>**

- ✓ The five Massachusetts communities with the highest teen birth rates in 1999 were Chelsea (107.5 births per 1,000 Chelsea women ages 15-19 years), Lawrence (103.9), Holyoke (100.5), Springfield (86.7), and Southbridge (74.0).

#### **Low Birthweight (LBW)**

- ✓ The statewide percentage of teen mothers delivering with low birthweight was 9.0%. Among the communities with the greatest number of teen births, the five communities with the highest percentages of low birthweight for teen mothers were Leominster (13.3%), Chicopee (12.5%), Pittsfield (12.5%), Haverhill (11.8%), and Quincy (11.4%).

#### **Adequacy of Prenatal Care**

- ✓ Overall, the statewide percentage of teen mothers receiving adequate prenatal care was 59.2%. Among the communities with the greatest number of teen births, the five communities with the lowest percentages of adequate prenatal care for teen mothers were Pittsfield (39.6%), Lawrence (45.4%), Brockton (46.2%), Chelsea (50.0%), and Worcester (50.0%).

#### **Previous Live Births (Parity)**

- ✓ The statewide percentage of births to teen mothers who had at least one previous live birth was 16.3%. Among the 25 communities with the greatest number of teen births, the percentages of births among teens who had at least one previous live birth were highest in Holyoke (30.2%), Springfield (25.8%), Fitchburg (23.4%), Cambridge (22.7%), and Worcester (22.2%).

#### **Expected Educational Attainment**

- ✓ Among the 25 communities with the greatest number of teen births, the percentages of teen mothers who were one or more school grades behind were highest in Holyoke (52.7%), Pittsfield (45.8%), Chelsea (45.7%), Lowell (44.5%), and Somerville (43.8%). Overall, the statewide percentage of teen mothers behind grade level was 31.7%.

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## **In-Hospital Paternity Acknowledgment**

- ✓ In 1999, the state percentage of teen births for which paternity was acknowledged in-hospital was 65.8%. Boston had the lowest percentage (53.8%). Somerville (55.2%), Cambridge (56.8%), Brockton (58.8%), and Lynn (58.8%) also had relatively low percentages of in-hospital paternity acknowledgment among the 25 selected communities.

## ***IV. Birth Characteristics for all 351 Communities and the 27 Community Health Network Areas (CHNA)***

In this section, the following statistics are presented for each of the 351 cities/towns in Massachusetts and for each of the 27 CHNAs: the number of all births, the number of teen births by mother's age (< 18 years and < 20 years), the number of births among teen mothers (< 20 years) who started prenatal care in the first trimester, and the number whose prenatal care was paid for with public funds. Additionally, a table presents the percent of teen and adult mothers who smoked during pregnancy for each of the 27 CHNAs. The Community Health Network Areas aggregate all Massachusetts cities and towns into 27 groups for the purpose of tracking health status and implementing health improvement efforts. The community groupings were modified in 1996 and the data here reflect the new groupings (see Appendix for most recent CHNA city/town groupings).

## ***Conclusions***

- ✓ The overall teen birth rate dropped slightly between 1998 and 1999.
- ✓ The Massachusetts teen birth rate remains considerably lower than the U. S. rate
- ✓ Among race/Hispanic ethnicity groups, disparities continue to exist in perinatal indicators, but there have been improvements in many measures.
- ✓ There continue to be Massachusetts communities which require special attention.
- ✓ Overall, teen mothers had more adverse outcomes (low birthweight, higher infant death) than adult women, reflecting an increased risk associated with adolescent maternity.